Nuclear Energy Student Programs @ Argonne

You can be part of it

Nuclear Energy R&D @ Argonne

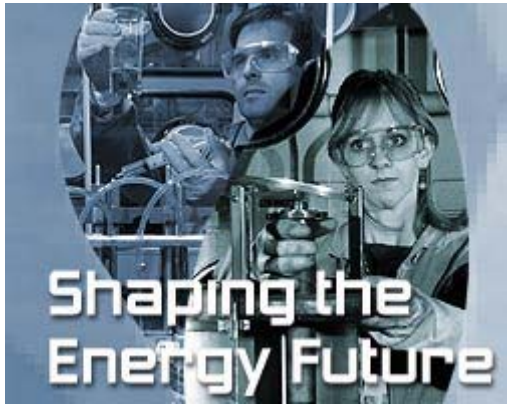
Argonne's roots lie in nuclear energy R&D. Argonne-led research supports every main nuclear power system throughout the world. One of our most notable successes has been the development and transfer of the technologies in today's commercial nuclear reactors.

Today, we continue our work in support of current-generation reactor technology while conducting research and development aimed at closing the nuclear fuel cycle and enabling the production of the clean sustainable energy that will be needed for the future.

Argonne's scientific and technical diversity provides the full range of capabilities needed to meet this challenge. Working in diverse, multidisciplinary teams, we are using cutting-edge research and modeling/simulation tools to translate fundamental scientific understanding into innovative technologies.

Argonne Facts

- Owned by U.S. Department of Energy (DOE), operated



Argonne National Laboratory is a leading R&D center that is working on technologies to provide the clean, sustainable and affordable energy that will be needed for U.S. energy security and related economic competitiveness.

We bring together the best minds in science, engineering, and modeling and simulation. We form teams to tackle complex scientific challenges, translating basic science into engineering solutions.

We build and operate large, one-of-a-kind user facilities.

We are at the forefront of energy research and development, and **you can be part of it**.

Nuclear Engineering Division

The mission of the Nuclear Engineering (NE) Division is to advance the design and operation of nuclear energy systems and to apply our nuclear energy-related expertise to current and emerging programs related to advanced reactor systems and national security and non-proliferation. Currently, we are involved in several programs of national and international importance, including

Chicago

I adore Chicago. It is the pulse of America.
-Sarah Bernhardt

Argonne National Laboratory is located in DuPage County, Illinois, **just about 25 miles southwest of Chicago**.

What are you still waiting for? Join Argonne and come feel the pulse of America!

Windy City links

- Chicago Office of Tourism
- ChicagoLife, a wealth of information and practical tips for students
- Things to see & to do in Chicago

Student Programs: APPLY NOW!

Argonne offers employment and internship opportunities.

Educational Programs Links

by The University of Chicago.

- Located on 1,500 wooded acres near Chicago.
- Employs 2,900 people from 71 countries.
- Annual operating budget $475 million.
- Scientifically and technically diverse.
- Partners with DOE and its laboratories, other federal agencies, state and local governments, universities, and private organizations.
- Dedicated to being an employer of choice.
- Offers year-round undergraduate and graduate educational opportunities.

Learn more about the nation's first national laboratory and one of the U.S. Department of Energy's largest research centers. [Full story...]

- Gen IV nuclear systems analysis, including development of advanced fast reactor systems for actinide management,
- AFCI fuel cycle and repository performance modeling,
- Reduced Enrichment for Research and Test Reactors (RERTR) design and safety analyses,
- National security and non-proliferation programs to support materials safeguards and export controls in Russia, the Newly Independent States (NIS), and elsewhere throughout the world.

NE personnel conduct a training course on export controls with customs officials in Azerbaijan.

Division personnel additionally contribute to improving the operation of existing nuclear energy systems and to resolving issues related to their performance and safety. We have a key role in advancing major Laboratory initiatives in such diverse areas as transportation, hydrogen generation and computational science. Finally, we contribute engineering expertise to the design, operation and decommissioning of major facilities at Argonne and elsewhere.

Curious?

For further information on the NE Division and the activities outlined above, please visit:

- Nuclear Engineering Division, the Division's website.
- Advanced Fuel Cycle Initiative (AFCI)
- Reduced Enrichment for Research and Test Reactors (RERTR) Program
- Gen IV and the development of next generation nuclear systems
- National security and non-proliferation program
- Search the NE website

Interested?

For further information on the NE Division and its student opportunities, please

Educational Programs Division
Argonne National Laboratory's link to the educational community

- **Graduate Programs**
- **Undergraduate Programs**

Catalog of Research Participation Projects
A resource containing the titles and descriptions of almost all research projects underway at Argonne National Laboratory

Educational Programs POC

For further information on student programs at Argonne, please contact:
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Multimedia Gallery

Visit our Multimedia Gallery, a great collection of videos and information about what it's like working at Argonne.

Downloadable docs

- Nuclear Energy R&D @ Argonne
  [PDF, 686KB, 2 pages]
- Nuclear Engineering Division Overview
  [PDF, 228KB, 2 pages]
- Chemical Engineering Division Overview
  [PDF, 90KB, 4 pages]
- Congressional testimony on nuclear fuel reprocessing by Dr. Phillip J. Finck, Deputy Associate Laboratory Director for Applied Science and Technology and National

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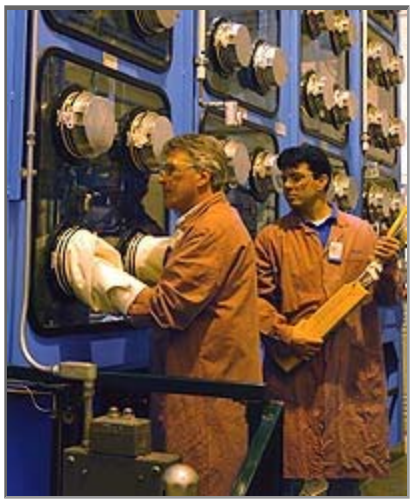
Chemical Engineering Division

The Chemical Engineering Division is a diverse early-stage engineering organization specializing in the treatment of spent nuclear fuel, development of advanced electrochemical power sources, and management of both high- and low-level nuclear wastes. Additionally, the Division operates the Analytical Chemistry Laboratory, which provides a broad range of analytical services to Argonne and other organizations, and the Electrochemical Analysis and Diagnostics Laboratory, which provides independent, standardized battery and fuel cell testing and analysis. Currently, we are engaged in the development of several technologies of national importance, including



Chemical engineers move pyroprocessing equipment remotely in an engineering-scale electrorefiner.

- Aqueous and pyrochemical processes for the disposition of spent nuclear fuel,
- Stable nuclear waste forms suitable for storage in a geological repository,
- Fuel cells and hydrogen production and storage for polymer electrolyte and solid oxide fuel cell systems, and
- Advanced lithium-ion and lithium-polymer batteries for transportation and other applications.

Our basic science programs are engaged in research projects such as catalysis and superconductivity that have the potential to impact future energy systems. In our national security programs, nanoscale engineering is enabling us to develop technology to detoxify humans following radiological, biological, or chemical exposure, and nondestructively decontaminate structures such as buildings and

Security, Argonne National Laboratory

- Spent Nuclear Fuel Generation and Accumulation (supplement to Dr. Finck's congressional testimony) [PDF, 3.94MB]
- Spent Nuclear Fuel Management Options (supplement to Dr. Finck's congressional testimony) [PDF, 1.04MB]

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monuments in the event of a terrorist attack with a “dirty bomb” or other radioactive dispersal device. Our work is funded primarily by the U.S. Department of Energy, but we also do work for and with other government agencies, universities, and industrial firms. In the course of our work we generate valuable intellectual property that is available for licensing.

Curious?

For further information on the Chemical Engineering Division and the activities outlined above, please visit the Chemical Engineering Division website.

Interested?

For further information on the Chemical Engineering Division and its student opportunities, please contact:

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